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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,901	01/29/2002	Minoru Teshigawara	01272.020501	3698

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

NGUYEN, LAMSON D

ART UNIT PAPER NUMBER

2861

DATE MAILED: 02/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

10/057,901

Applicant(s)

TESHIGAWARA ET AL.

Examiner

Lamson D Nguyen

Art Unit

2861

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 3 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 3 and 11, it is not clear what the applicant is trying to teach.

Specifically, the limitation "wherein the dot data obtained through the conversion by said conversion means is what causes the larger size of dot to be disposed correspondingly to the density of an intermediate or less in a density range..." is confusing and unclear as to how the larger dots are made.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1, 2, 4-7, 9-10, 12-13 are rejected under 35 U.S.C. 102(a) as being anticipated by Fukuhata (6,030,065).

Fukuhata teaches an ink jet printing apparatus, printing method, and a program comprising:

- data producing means for producing printing data corresponding to each of a plurality of printing elements of a printhead different in size of dot formed under a predetermined condition (figure 4 teaches an image signal control circuit 200, column 5, lines 58-65; figure 7 teaches nozzles of different size)
- conversion means for converting the printing data produced by said data producing means into dot data for forming and disposing a dot in a pixel, said conversion means executing the converting independently for and correspondingly to each of the different sizes of dots (column 5, lines 58-65 teach the image signal control circuit 200 applies varied drive voltage to a printhead, the size of an ejected ink drop also varies; column 6, lines 1-10 teach nozzles 12 are used to eject small dots and nozzles 14 are used to eject large dots)
- the predetermined condition is a condition that a change in density of an image, which is printed with dots formed based on the printing data corresponding to each of the printing elements different in the size of dot formed (column 6, lines 53-59 teach by using different sized dots, different printing densities are achieved)
- the printing elements include an ink ejection opening for ejecting ink (figures 7-8 teach nozzles 12 and 14 for ejecting ink out)
- the ejecting openings ejecting ink of a same color and different amount are arranged in parallel and in a scanning direction of the printhead

(figure 7 teaches nozzles ejecting same-color-different-amount ink disposed parallel and in a scanning direction)

- the ejecting openings ejecting ink of a same color and different amount are arranged alternately in a direction perpendicular to a scanning direction (figure 8 teaches large nozzles 14 and small nozzles 12 of a same color ink are disposed in a staggered manner in a sub-scanning direction)
- a group of the ejection openings of a plurality of ink colors and other group of the ejection opening group of the plurality of ink colors are arranged symmetrically with an axis perpendicular to the scanning direction (figures 7-8 teach the nozzle arrays of 10Y, 10M, 10C, and 10K are arranged symmetrically and parallel in the sub-scanning direction)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuhata in view of Takahashi et al. (6,390,586).

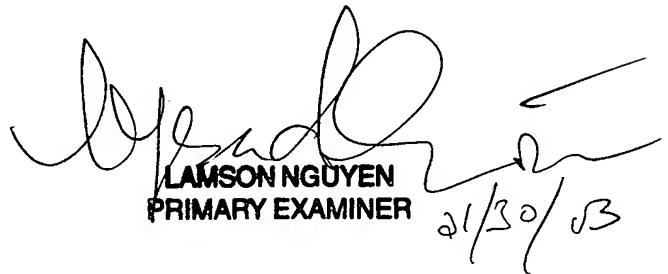
Fukuhata teaches all claimed features of the instant invention with the exception:

- a plurality of print buffers corresponding to respective inks

It is well-known in the art of printers to have a plurality of print buffers corresponding to a plurality of inks, as taught by Takahashi et al. (figure 17, print buffers 309 Y, M, C, and K).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Fukuhata to incorporate the teaching of a plurality of print buffers taught by Takahashi et al. for the purpose of storing different color print data.

4. Any questions regarding this communication may be addressed to Mr. Lamson D. Nguyen whose telephone number is 703-306-4547.


LAMSON NGUYEN
PRIMARY EXAMINER 2/30/03